



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

MAY 24 2005

10 CFR 50.54(f)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, Maryland 20852-2738

Gentlemen:

In the Matter of) Docket No.50-390
Tennessee Valley Authority)

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - BULLETIN 2004-01, INSPECTION
OF ALLOY 82/182/600 MATERIALS USED IN THE FABRICATION OF
PRESSURIZER PENETRATIONS AND STEAM SPACE PIPING CONNECTIONS AT
PRESSURIZED-WATER REACTORS - INSPECTION COMPLETION (TAC NO. MC3525)

Reference: TVA letter to NRC dated July 27, 2004, "Sequoyah Nuclear Plant (SQN) Units 1 and 2 and Watts Bar Nuclear Plant (WBN) Unit 1 - Sixty-day Response to NRC Bulletin 2004-01, Inspection Of Alloy 82/182/600 Materials Used In The Fabrication Of Pressurizer Penetrations And Steam Space Piping Connections At Pressurized-Water Reactors."

The purpose of this letter is to provide the results of the bare metal visual inspection of the upper pressurizer Alloy 600 locations (safety, spray, and relief safe-ends) performed during the WBN Unit 1 Cycle 6 refueling outage as committed in the referenced letter and in response to the subject Bulletin. The results of the inspection are provided in the Enclosure.

There are no regulatory commitments associated with this submittal. If you have any questions about this letter, please contact me at (423) 365-1824.

U.S. Nuclear Regulatory Commission
Page 2

MAY 24 2005

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 24 day of May 2005.

Sincerely,



P. L. Pace
Manager, Site Licensing
and Industry Affairs

Enclosure

Cc: (Enclosure)
NRC Resident Inspector
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, Tennessee 37381

Mr. D. V. Pickett, Project Manager
U.S. Nuclear Regulatory Commission
MS 08G9a
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
BULLETIN 2004-01 UNIT 1 CYCLE 6 OUTAGE INSPECTION

NRC requested plants to perform an inspection of the Alloy 82/182/600 pressurizer penetrations in Bulletin 2004-01. TVA committed to perform this inspection in the Cycle 6 refueling outage for WBN in the 60-day response to the bulletin dated July 27, 2004. Below is the response to NRC's request.

NRC REQUEST

Within 60 days of plant restart following the next inspection of the Alloy 82/182/600 pressurizer penetrations and steam space piping connections, the subject PWR licensees should either:

- (a) submit to the NRC a statement indicating that the inspections described in the licensee's response to item (1)(c) of this bulletin were completed and a description of the as-found condition of the pressurizer shell, any findings of relevant indications of through-wall leakage, followup NDE performed to characterize flaws in leaking penetrations or steam space piping connections, a summary of all relevant indications found by NDE, a summary of the disposition of any findings of boric acid, and any corrective actions taken and/or repairs made as a result of the indications found,

or

- (b) if the licensee was unable to complete the inspections described in response to item (1)(c) of this bulletin, submit to the NRC a summary of the inspections performed, the extent of the inspections, the methods used, a description of the as-found condition of the pressurizer shell, any findings of relevant indications of through-wall leakage, followup NDE performed to characterize flaws in leaking penetrations or steam space piping connections, a summary of all relevant indications found by NDE, a summary of the disposition of any findings of boric acid, and any corrective actions taken and/or repairs made as a result of the indication found. In addition, supplement the answer which you provided to item (1)(d) above to explain why the inspections that you completed were adequate for

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
BULLETIN 2004-01 UNIT 1 CYCLE 6 OUTAGE INSPECTION

- (c) *the purpose of maintaining the integrity of your facility's RCPB and for meeting all applicable regulatory requirements which pertain to your facility.*

RESPONSE

In TVA's response to Item (1)(c) of Bulletin 2004-01 dated July 27, 2004, TVA committed to perform a bare metal visual (BMV) inspection of the upper pressurizer Alloy 600 locations (safety, spray, and relief safe-ends) during the upcoming Unit 1 Cycle 6 Refueling Outage (RFO) in the Spring 2005. TVA also submitted a supplemental response to the bulletin dated February 11, 2005 which provided a description of the WBN pressurizer and each pressurizer penetration. That submittal confirmed the locations of any Alloy 82/182/600 penetrations and steam space piping connections.

TVA restarted from Cycle 6 RFO on April 1, 2005. The BMV inspections were performed during the outage in accordance with TVA's procedure N-VT-19, "Visual Inspection of Alloy 600/82/182 Pressure Boundary Components." The results of the inspection indicated no relevant indications of through-wall leakage at those locations. The data sheets from those inspections are attached. ISI drawing CHM-2570-C-01 is also attached and provides the locations of the component identifiers recorded on the data sheets.

An NRC Region II Inspector, who was on site performing the Inservice Inspection (ISI) inspection, witnessed the inspection of the Alloy 82/182/600 locations. The inspector's review is documented in Inspection Report 50-390/2005-002.

WATTS BAR NUCLEAR PLANT UNIT 1
BULLETIN 2004-01 UNIT 1 CYCLE 6 OUTAGE INSPECTION

EXAM DATE: 5/6/05 PROCEDURE: N-VT-19 REV 1 TC: N/A REPORT NO.: 0966
PLANT: WBN UNIT: 1 CYCLE: 06 INSERVICE: ☒ PRESERVICE: ☐
COMPONENT ID WP-11-SE MODIFIED PORTION ONLY: Yes: ☐ No: ☒
DRAWING NO CHM-2570-C-01 SYSTEM: PZR CODE CATEGORY: B-F
COMPONENT TYPE: Safe-End VISUAL AID(S): MIRROR
TYPE OF VISUAL EXAM HT-VT-25 DIRECT: ☒ REMOTE: ☐
ILLUMINATION CHECK ADEQUATE VISUAL CARD S/N: 0 #143

ATTRIBUTE	ACCEPT	REJECT	N/A
COOLANT LEAKAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRACKS/FRACTURES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (DESCRIBE BELOW)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

REMARKS NONE

NOI NUMBER: <u>N/A</u>	WORK DOCUMENT: <u>N/A</u>
EXAMINER: <u>Mark Welch</u>	LEVEL: <u>III</u> DATE: <u>3/6/05</u>
EXAMINER: <u>N/A</u>	LEVEL: _____ DATE: _____
REVIEWER: <u>James E. Rogers Jr</u>	LEVEL: <u>II</u> DATE: <u>3/6/05</u>
ANTI REVIEW: <u>N/A</u>	DATE: _____

WATTS BAR NUCLEAR PLANT UNIT 1
BULLETIN 2004-01 UNIT 1 CYCLE 6 OUTAGE INSPECTION

EXAM DATE: 3/6/05 PROCEDURE: N-17-19 REV 1 TC: N/A REPORT NO.: 0967
PLANT: WBN UNIT: 1 CYCLE: 06 INSERVICE: ☒ PRESERVICE: ☐
COMPONENT ID WT-12-SE MODIFIED PORTION ONLY: Yes: ☐ No: ☒
DRAWING NO CHM-2570-C-01 SYSTEM: PZR CODE CATEGORY: B-F
COMPONENT TYPE: Safe-End VISUAL AID(S): MIRROR
TYPE OF VISUAL EXAM, VT-1 ~~VT-2~~ DIRECT: ☒ REMOTE: ☐
ILLUMINATION CHECK ADEQUATE: ☒ VISUAL CARD S/N: 0 #143

ATTRIBUTE	ACCEPT	REJECT	N/A
COOLANT LEAKAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRACKS/FRACTURES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (DESCRIBE BELOW)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

REMARKS NONE

NOI NUMBER: <u>N/A</u>	WORK DOCUMENT: <u>N/A</u>
EXAMINER: <u>Walter White</u>	LEVEL: <u>III</u>
EXAMINER: <u>N/A</u>	LEVEL: <u></u>
REVIEWER: <u>James E. Ryan Jr.</u>	LEVEL: <u>II</u>
ANALY REVIEW: <u>N/A</u>	DATE: <u>3/6/05</u>
	DATE: <u></u>
	DATE: <u>3/4/5</u>
	DATE: <u></u>

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
BULLETIN 2004-01 UNIT 1 CYCLE 6 OUTAGE INSPECTION

TENNESSEE VALLEY AUTHORITY
RECORD OF VISUAL EXAMINATION

EXAM DATE: <u>3/6/05</u>	PROCEDURE: <u>N-VT-19</u>	REV: <u>1</u>	TC: <u>N/A</u>	REPORT NO.: <u>0968</u>
PLANT: <u>WBN</u>	UNIT: <u>1</u>	CYCLE: <u>06</u>	INSERVICE: <input checked="" type="checkbox"/>	PRESERVICE: <input type="checkbox"/>
COMPONENT ID: <u>WP-13-SE</u>	MODIFIED PORTION ONLY: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>			
DRAWING NO: <u>CHM-2570-C-01</u>	SYSTEM: <u>PZR</u>	CODE CATEGORY: <u>B-F</u>		
COMPONENT TYPE: <u>Safe-End</u>	VISUAL AID(S): <u>MIRROR</u>			
TYPE OF VISUAL EXAM: <u>Visual</u>	DIRECT: <input checked="" type="checkbox"/>	REMOTE: <input type="checkbox"/>		
ILLUMINATION CHECK ADEQUATE: <input checked="" type="checkbox"/>	VISUAL CARD SN: <u>0 #143</u>			

ATTRIBUTE	ACCEPT	REJECT	N/A
COOLANT LEAKAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRACKS/FRACTURES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (DESCRIBE BELOW)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

REMARKS NONE

NOI NUMBER: <u>N/A</u>	WORK DOCUMENT: <u>N/A</u>
EXAMINER: <u>Mark Welch</u>	LEVEL: <u>III</u> DATE: <u>3/6/05</u>
EXAMINER: <u>N/A</u>	LEVEL: <u></u> DATE: <u></u>
REVIEWER: <u>James E. Ryan</u>	LEVEL: <u>II</u> DATE: <u>3/6/5</u>
ANII REVIEW: <u>N/A</u>	DATE: <u></u>

WATTS BAR NUCLEAR PLANT UNIT 1
BULLETIN 2004-01 UNIT 1 CYCLE 6 OUTAGE INSPECTION

EXAM DATE: 8/6/05 PROCEDURE: N-VT-19 REV 1 TC: 4/1 REPORT NO.: Q769
PLANT: WBN UNIT: 1 CYCLE: 06 INSERVICE: ☒ PRESERVICE: ☐
COMPONENT ID WT-14-SE MODIFIED PORTION ONLY: Yes: ☐ No: ☒
DRAWING NO CHM-2570-C-01 SYSTEM: PZR CODE CATEGORY: B-F
COMPONENT TYPE: Safe-End VISUAL AID(S): MIRROR
TYPE OF VISUAL EXAM ^{Viz} Penetrant DIRECT: ☒ REMOTE: ☐
ILLUMINATION CHECK ADEQUATE: ☒ VISUAL CARD S/N: 0 #143

ATTRIBUTE	ACCEPT	REJECT	N/A
COOLANT LEAKAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRACKS/FRACTURES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (DESCRIBE BELOW)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

NOI NUMBER: <u>N/A</u>	WORK DOCUMENT: <u>N/A</u>
EXAMINER: <u>Walt Wilsh</u>	LEVEL: <u>III</u> DATE: <u>3/6/05</u>
EXAMINER: <u>N/A</u>	LEVEL: _____ DATE: _____
REVIEWER: <u>James E. Ryan Jr</u>	LEVEL: <u>II</u> DATE: <u>3/6/5</u>
ANTI REVIEW: <u>N/A</u>	DATE: _____

WATTS BAR NUCLEAR PLANT UNIT 1
BULLETIN 2004-01 UNIT 1 CYCLE 6 OUTAGE INSPECTION

EXAM DATE: 3/6/05 PROCEDURE: N-VT-19 REV 1 TC: 4/0 REPORT NO.: 0978
PLANT: WBN UNIT: 1 CYCLE: 06 INSERVICE: ☒ PRESERVICE: ☐
COMPONENT ID WP-15-SE MODIFIED PORTION ONLY: Yes: ☐ No: ☒
DRAWING NO CHM-2570-C-01 SYSTEM: PZR CODE CATEGORY: B-F
COMPONENT TYPE: Safe-End VISUAL AID(S): MIRROR
TYPE OF VISUAL EXAM FF ^{Y12} _{3/6/05} DIRECT: ☒ REMOTE: ☐
ILLUMINATION CHECK ADEQUATE: ☒ VISUAL CARD S/N: 0 #143

ATTRIBUTE	ACCEPT	REJECT	N/A
COOLANT LEAKAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRACKS/FRACTURES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (DESCRIBE BELOW)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

REMARKS NONE

NOI NUMBER: <u>N/A</u>	WORK DOCUMENT: <u>N/A</u>
EXAMINER: <u>Matt Welch</u>	LEVEL: <u>III</u>
EXAMINER: <u>N/A</u>	DATE: <u>3/6/03</u>
REVIEWER: <u>James E. Brown Jr.</u>	LEVEL: <u>II</u>
ANII REVIEW: <u>N/A</u>	DATE: <u>3/6/05</u>

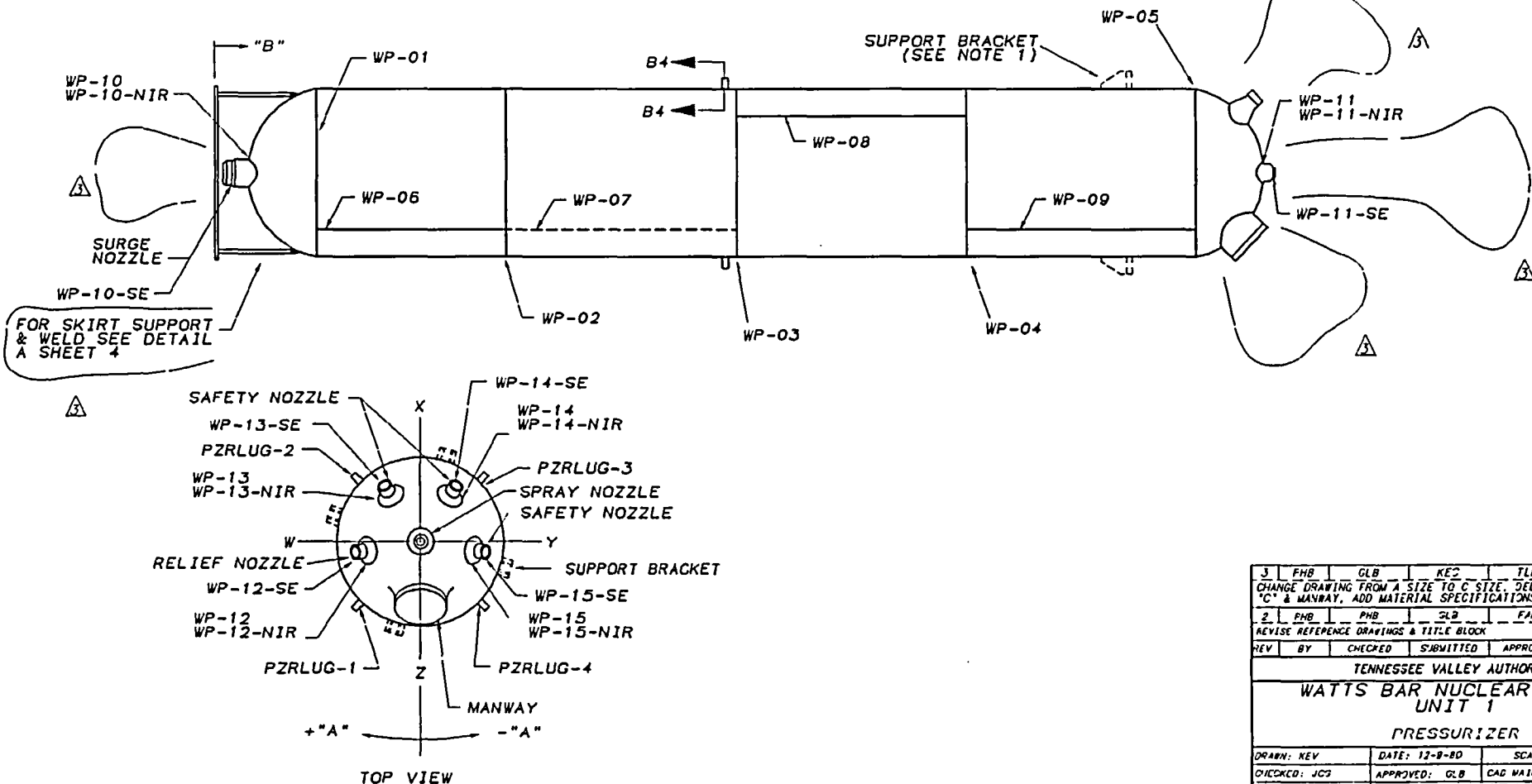
REFERENCE DIMENSIONS			
TITLE	SEAM NO.	"A"	"B"
GIRTH WELDS	1		56.44"
	2		193.25"
	3		322.12"
	4		450.87"
	5		588.12"
LONGITUDINAL WELDS	6	+30°	
	7	-29°	
	8	+135°	
	9	+47°	
	10	0°	
SURGE NOZ.	10	0°	
SPRAY NOZ.	11	0°	
RELIEF NOZ.	12	+81°	
SAFETY NOZ.	13	+146° 59'	
SAFETY NOZ.	14	-147° 7'	
SAFETY NOZ.	15	-82°	

REFERENCE DRAWINGS
47W465-2
VENDOR MANUAL WBN-VTM-W120-0550
FIGURES 5-1, 5-3, 5-6, 5-7S, 5-1, 5-7)

MATERIAL SPECIFICATIONS
NOZZLE SAFE ENDS
SURGE 14" SCH. 160 SA-182 OR F-316L
SPRAY 4" SCH. 160 SA-182 OR F-316L
SAFETY 6" SCH. 160 SA-182 OR F-316L
RELIEF 6" SCH. 160 SA-182 OR F-316L
NOZZLE & MANWAY FORGINGS
SA-508 CLASS 2
SHELL BARRELS
SA 533 GR. A CL. 2
UPPER & LOWER HEAD
SA-533 GR. A CL. 2

ASME CC-1 (EQUIVALENT)

NOTE:
1. SUPPORT BRACKETS NOT USED



3	FHB	GLB	KE2	ILH	2-7-96
CHANGE DRAWING FROM A SIZE TO C SIZE, DELETE DIMENSION "C" & MANWAY, ADD MATERIAL SPECIFICATIONS, REV. SKIRT NOTE					
2	FHB	FHB	GLB	FAK	4-26-95
REVISE REFERENCE DRAWINGS & TITLE BLOCK					
REV	BY	CHECKED	SUBMITTED	APPROVED	DATE
TENNESSEE VALLEY AUTHORITY					
WATTS BAR NUCLEAR PLANT UNIT 1					
PRESSURIZER					
DRAWN: KEV	DATE: 12-8-80		SCALE: NOT TO SCALE		
CHECKED: JCG	APPROVED: GLB		CAG MAINTAINED DRAWING		
SUBMITTED:	CHM-2570-C-01		03		